

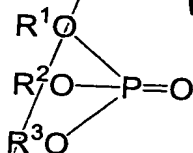
What is claimed is:

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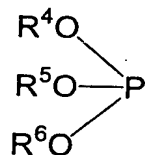
1. A heat transfer sheet comprising a light-heat-conversion layer which includes an infrared light absorbing colorant and an image formation layer, the layers being provided in that order on a support, wherein said light-heat-conversion layer further includes one or more compounds having at least one functional group selected from a phosphate group, a phosphite group, an acid halide group, a sulfonic halide group, an acid anhydride group and an isocyanate group.

2. The heat transfer sheet according to Claim 1, wherein said compound having at least one functional group selected from a phosphate group, a phosphite group, an acid halide group, a sulfonic halide group, an acid anhydride group and an isocyanate group is represented by any of the following general formulae (1) to (6):

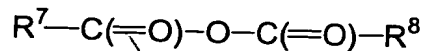
General formula (1)



General formula (2)



General formula (3)



General formula (4)



General formula (5)



General formula (6)



wherein,  $R^1$ ,  $R^2$ ,  $R^3$ ,  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$ ,  $R^8$ ,  $R^9$ ,  $R^{10}$  and  $R^{11}$  represent a hydrogen atom, an alkyl group or aryl group and said alkyl group and aryl group may include other functional group;  $R^7$  and  $R^8$  may be connected to have a closed ring structure; and X represents a halogen atom.

3. The heat transfer sheet according to Claim 1, wherein said compound is a polymer compound.

4. The heat transfer sheet according to Claim 1, wherein said image formation layer comprises a pigment and an amorphous organic polymer having a softening temperature in the range from 40 to 150°C in amounts of 20 to 80% by weight respectively, and has a layer thickness in the range from 0.2 to 1.5  $\mu m$ .

5. A heat transfer sheet comprising a light-heat-conversion layer which includes an infrared light absorbing colorant and an image formation layer, the layers being provided

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P1  
cont

in that order on a support, wherein said light-heat-conversion layer includes at least one of compounds having an acidic group.

6. The heat transfer sheet according to Claim 5, wherein said compound having an acidic group is represented by the following general formula (8) or (9):

General formula (8)



General formula (9)



wherein,  $R^1$  and  $R^2$  represent an alkyl group or aryl group; and said alkyl group and aryl group may include other functional group.

7. The heat transfer sheet according to Claim 5, wherein said compound is a polymer compound.

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P1

8. The heat transfer sheet according to Claim 5, wherein said image formation layer comprises a pigment and an amorphous organic polymer having a softening temperature in the range from 40 to 150°C in amounts of 20 to 80% by weight respectively, and has a layer thickness in the range from 0.2 to 1.5  $\mu$ m.

9. A heat transfer sheet comprising a light-heat-conversion layer which includes an infrared light absorbing colorant and an image formation layer, the layer being provided in that order on a support, wherein said light-heat-conversion layer further includes at least one or more compounds selected from compounds represented by the following general formula (10) and tautomers thereof, and compounds represented by the following general formula (13):

General formula (10)

A-S-B

wherein, A represents an aromatic ring or a heterocyclic ring which may have a substituent; B represents a hydrogen atom, -S-A', or -C(=O)R<sup>1</sup>; A' represents an aromatic or heterocyclic ring which may have a substituent, and may be the same as said A; R<sup>1</sup> represents an alkyl group which may be branched, has 1 to 18 carbon atoms, and may include a functional group,

General formula (13)

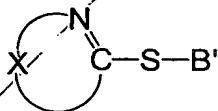
S=D

wherein, D represents a 5-membered or 6-membered nitrogen-containing heterocyclic or aromatic ring; said aromatic or heterocyclic ring may have a substituent, and further, the aromatic or heterocyclic ring may be condensed.

10. The heat transfer sheet according to Claim 9, wherein said light-heat-conversion layer includes at least one or more compounds selected from compounds represented by the general formula (10) and tautomers thereof.

11. The heat transfer sheet according to Claim (10), wherein the compound represented by the general formula (10) is a compound represented by the following general formula (11):

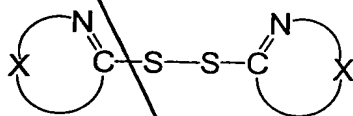
General formula (11)



wherein, X represents an atomic group forming a 5-membered or 6-membered nitrogen-containing heterocyclic ring, and an aromatic ring or a heterocyclic ring may also be condensed with said nitrogen-containing heterocyclic ring; said nitrogen-containing heterocyclic ring and the aromatic ring or heterocyclic ring condensed with the nitrogen-containing heterocyclic ring may have a substituent; B' represents a hydrogen atom or  $-C(=O)R^2$ ; and  $R^2$  represents an alkyl group which may be branched has 1 to 18 carbon atoms, and may have a substituent.

12. The heat transfer sheet according to Claim (10), wherein the compound represented by the general formula (10) is a compound represented by the following general formula (12):

General formula (12)



wherein, X each independently represents an atomic group forming a 5-membered or 6-membered nitrogen-containing heterocyclic ring, and the atomic groups represented by X may be the same or different; an aromatic ring or heterocyclic ring may also be condensed with said nitrogen-containing heterocyclic ring; and said nitrogen-containing heterocyclic ring and the aromatic ring or heterocyclic ring condensed with

the nitrogen-containing heterocyclic ring may have a substituent.

13. The heat transfer sheet according to Claim 11, wherein in the general formula 11, B' represents  $-C(=O)R^2$ , and  $R^2$  represents an alkyl group which may be branched and has 1 to 4 carbon atoms.

14. The heat transfer sheet according to Claim 10, wherein in the general formula 10, B represents  $-S-A'$ , and  $A'$  is the same group as A.

15. The heat transfer sheet according to Claim 9, wherein said light-heat-conversion layer includes at least one or more compounds represented by the general formula (13).

16. The heat transfer sheet according to Claim 9, wherein said image formation layer comprises a pigment and an amorphous organic polymer having a softening temperature in the range from 40 to 150°C in amounts of 30 to 70% by weight and 70 to 30% by weight respectively, and has a layer thickness in the range from 0.2 to 1.0  $\mu m$ .

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17. A light-heat-conversion type image formation material comprising a heat transfer sheet and an image receiving material, wherein said heat transfer sheet comprises a light-heat-conversion layer which includes an infrared light absorbing colorant and an image formation layer, the layers being provided in that order on a support, wherein said light-heat-conversion layer further includes one or more compounds having at least one functional group selected from a phosphate group, a phosphite group, an acid halide group, a sulfonic halide group,

an acid anhydride group and an isocyanate group.

18. A light-heat-conversion type image formation material comprising a heat transfer sheet and an image receiving material, wherein said heat transfer sheet comprises a light-heat-conversion layer which includes an infrared light absorbing colorant and an image formation layer, the layers being provided in that order on a support, wherein said light-heat-conversion layer further includes at least one of compounds having an acidic group.

19. A light-heat-conversion type image formation material comprising a heat transfer sheet and an image receiving material, wherein said heat transfer sheet comprises a light-heat-conversion layer which includes an infrared light absorbing colorant and an image formation layer, the layers being provided in that order on a support, in which said light-heat-conversion layer further includes at least one or more compounds selected from compounds represented by the following general formula (10) and tautomers thereof and compounds represented by the following general formula (13):

General formula (10)

A-S-B

wherein, A represents an aromatic ring or heterocyclic ring which may have a substituent; B represents a hydrogen atom, -S-A', or -C(=O)R<sup>1</sup>; A' represents an aromatic ring or heterocyclic ring which may have a substituent, and may be the same as said A; and R<sup>1</sup> represents an alkyl group which may be branched, has 1 to 18 carbon atoms, and may include a functional

group,

General formula (13)

$S=D$

wherein, D represents a 5-membered or 6-membered nitrogen-containing heterocyclic or aromatic ring; said aromatic or heterocyclic ring may have a substituent, and further, the aromatic or heterocyclic ring may be condensed.

20. The light-heat-conversion type image formation material according to Claim 16, wherein said image receiving material has at least a cushioning layer and an image receiving layer disposed on white polyethylene terephthalate.